

CHECKLIST OF THE CULTIVATED TREES OF ST. GEORGE, WASHINGTON COUNTY, UTAH

Robert B. Warrick¹ and C. Frank Williams²

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The challenge by Welsh (1987) in the introduction to *A Utah Flora* provided the impetus for writing this paper. Welsh challenges future workers to focus more attention on the cultivated plants of the state, which are numerous but poorly represented in the herbaria.

Washington County, Utah, is the most botanically diverse county in the state, both in cultivated and noncultivated species. St. George is often described as the "Palm Springs" of Utah. Its climate is milder than any other portion of the state, and palm trees and other semitropical plants attest to this fact. For this reason, the diversity of trees growing in St. George is extensive.

The following checklist is the result of a two-month intensive inventory of the street trees of St. George, the county seat and largest city in Washington County. Because of the wide diversity of trees grown in St. George, the checklist does not include all cultivated trees of Washington County. However, the majority of the species that are cultivated in the county will be represented here.

SITE DESCRIPTION

St. George is located in Zone 8a of the new USDA zone maps and rated at Zone 10 in the Western Garden Book system. The average annual minimum temperature is 9.5-12.2 C; average rainfall is 22.3 cm per year. The growing season averages 223 days per year, and extended periods of cold weather during the winter are rare (Eubank and Brough 1979).

The soils in St. George and Washington County in general are alkaline. The four soil

types found within St. George include the Hantz and St. George silty clay loams, and the Junction and Tobler fine sandy loams (Mortensen et al. 1977).

MATERIALS AND METHODS

The inventory was restricted to the "old city," as depicted on the 1956 revised plat of St. George. The surrounding communities of Bloomington, Bloomington Hills, Green Valley, Middleton, etc., were not part of the inventory, although a quick survey of these communities was conducted to search for species not encountered in St. George proper.

Each tree within the city right-of-way of the approximately 230 city blocks was mapped and the species, dbh (diameter at breast height), and percentage of live wood were determined. Trees with problems were also indicated. Noteworthy trees outside of the right-of-way were also mapped but designated as such. On such properties as city parks, the city cemetery, Red Hills Municipal Golf Course, and the campus of Dixie College, all trees were mapped.

Resources used to identify unknown trees include *A Utah Flora* (Welsh et al. 1987), *Manual of Cultivated Plants* (Bailey 1949), *North American Trees* (Preston 1976), *Western Garden Book* (Williamson 1979), and *The Standard Cyclopedia of Horticulture* (Bailey 1922). Local nurseries were also visited, but because many plants were mislabeled, all trees were double-checked against the above-mentioned floras and field guides and with herbarium specimens at Brigham Young University. Many specimens were not available in the herbarium for comparison and collections

¹Coast Nurseries, 15914 Broadway, Gardena, California 90248.

²Department of Agronomy and Horticulture, Brigham Young University, Provo, Utah 84602.

were made and deposited at the BYU Herbarium for future workers.

RESULTS AND DISCUSSION

Approximately 3000 city trees and ca. 500 other trees outside the city right-of-way were mapped. All trees on city property and right-of-ways were entered into a data base for future reference by city parks and recreation workers. The total number of species encountered was much higher than expected, with 130 taxa in 77 genera and 38 families noted.

The three most common street trees were *Morus alba* L. (white mulberry), 16.8%; *Fraxinus velutina* Torr. (velvet ash cultivars), 12.2%; and *Gleditsia triacanthos* L. (honey locust), 5.4%.

Thirty species previously unreported for the state were discovered; they are marked with an asterisk in the checklist. A few of these have been known by some to be growing in Utah or Washington County, but they have never been collected and preserved in herbaria or reported in the literature.

An annotated species list may be obtained from the authors.

CHECKLIST OF THE CULTIVATED TREES OF ST. GEORGE, WASHINGTON COUNTY, UTAH

Species preceded by an asterisk were either previously not known to be growing in the state of Utah or unreported in the literature and/or herbaria of the state.

DIVISION PINOPHYTA

Cupressaceae

* <i>Cupressocyparis leylandii</i> (Dallim & Jacks.) Dallim	Leyland cypress
<i>Cupressus arizonica</i> Greene	Arizona cypress
* <i>Cupressus sempervirens</i> L.	Italian cypress
<i>Juniperus chinensis</i> L.	Chinese juniper
<i>Juniperus chinensis</i> L. 'Hollywood'	Hollywood juniper
<i>Juniperus scopulorum</i> Sarg.	Rocky Mountain juniper
<i>Platycladus orientalis</i> (L.)	Arborvitae, Chinese thuja

Cycadaceae

* <i>Cycas revoluta</i> Thurb.	Sago palm, cycad
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Ginkgoaceae

<i>Ginkgo biloba</i> L.	Ginkgo, maidenhair tree
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Pinaceae

* <i>Calocedrus decurrens</i> (Torr.) Florin	Incense cedar
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<i>Cedrus atlantica</i> (Endl.) Manetti ex Carr	Atlas cedar
* <i>Cedrus deodara</i> Loud.	Deodar cedar
<i>Picea pungens</i> Engelm.	Blue spruce
* <i>Pinus halepensis</i> Mill.	Aleppo pine
* <i>Pinus halepensis</i> Mill. var. <i>brutia</i> Henry	Mondell pine
<i>Pinus monophylla</i> Torr. & Frem.	Single-leaf pinyon
<i>Pinus mugo</i> Turra	Mugo pine, Swiss mountain pine
<i>Pinus nigra</i> Arnold	Austrian pine
* <i>Pinus pinea</i> L.	Italian stone pine
* <i>Pinus roxburghii</i> Sarg.	Chir pine,
* <i>Pinus thunbergiana</i> Parl	Indian longleaf pine Japanese black pine

Podocarpaceae

* <i>Podocarpus macrophylla</i> D. Don	Yew pine
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Taxodiaceae

<i>Sequoiadendron giganteum</i> (Lindl.) Buch.	Sequoia
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DIVISION MAGNOLIOPHYTA

CLASS MAGNOLIOSIDA

Aceraceae

<i>Acer negundo</i> L.	Box elder
<i>Acer palmatum</i> Thunb.	Japanese maple
<i>Acer saccharinum</i> L.	Silver maple

Anacardiaceae

<i>Cotinus coggygria</i> Scop.	Smoke tree
<i>Pistacia atlantica</i> Desf.	Mt. Atlas pistache
* <i>Pistacia chinensis</i> Bunge	Chinese pistache
<i>Pistacia vera</i> L.	Pistacio
<i>Rhus typhina</i> L.	Staghorn sumac
<i>Rhus typhina</i> L. 'laciniata'	Fernleaf staghorn sumac

Aquifoliaceae

<i>Ilex opaca</i> Ait.	American holly
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Betulaceae

<i>Betula papyrifera</i> Marshall	Paper birch
<i>Betula pendula</i> Roth	Weeping birch
<i>Corylus avellana</i> L. 'Contorta'	Harry Lauder's walking stick

Bignoniaceae

<i>Catalpa speciosa</i> Warden	Catalpa, Indian cigar tree
<i>Chiloplois linearis</i> (Cav.) Sweet	Desert willow

Ebenaceae

<i>Diospyros</i> sp.	Persimmon
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Elaeagnaceae

<i>Elaeagnus angustifolia</i> L.	Russian olive
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Fagaceae

<i>Quercus pauciloba</i> Rydb.	Wavyleaf live oak
<i>Quercus turbinella</i> Greene	Canyon live oak
<i>Quercus</i> spp.	Oak hybrids

Hamamelidaceae		<i>Fraxinus velutina</i> Torr.	Velvet ash
<i>Liquidambar styraciflua</i> L.	Sweetgum	* <i>Ligustrum lucidum</i> Ait.	Glossy privet
Hippocastanaceae		* <i>Olea europaea</i> L.	Olive
<i>Aesculus hippocastanum</i> L.	Horsechestnut		
Juglandaceae		<i>Platanus x acerifolia</i> Willd.	Sycamore,
<i>Carya illinoensis</i> (Wangenh.) K. Koch	Pecan	<i>Platanus occidentalis</i> L.	London plane tree
<i>Juglans nigra</i> L.	Black walnut	* <i>Platanus racemosa</i> Nutt.	American sycamore
<i>Juglans regia</i> L.	English walnut		California sycamore
Lauraceae			Rhamnaceae
* <i>Laurus nobilis</i> L.	Sweetbay	<i>Ziziphus jujuba</i> Miller	Jujube
Leguminosae			Rosaceae
<i>Albizia julibrissin</i> Durazz.	Mimosa, silk tree	<i>Crataegus c.f. lacvigata</i> (Poir.) DC	English hawthorne
<i>Caesalpinia gilliesii</i> (Wallich) Dietr.	Bird-of-paradise	* <i>Eriobotrya japonica</i> Lindl.	Loquat
<i>Cercis canadensis</i> L.	Redbud	* <i>Eriobotrya deflexa</i> (Hemsl.) Nakai	Bronze loquat
<i>Gleditsia triacanthos</i> L.	Honey locust	<i>Malus floribunda</i> Sieb. ex Van Houtte	Flowering crabapple
<i>Laburnum anagyroides</i> Mebicus	Goldenchain	<i>Malus pumila</i> Miller	Apple
<i>Parkinsonia aculeata</i> L.	Paloverde	<i>Malus sp.</i>	Crabapple
<i>Prosopis glandulosa</i> Torr.	Honey mesquite	<i>Photinia x fraseri</i> Dress.	Photinia
<i>Prosopis pubescens</i> Benth.	Screwbean mesquite	<i>Prunus armeniaca</i> L.	Apricot
* <i>Robinia x ambigua</i> Poir. 'Idahoensis'	Idaho locust	<i>Prunus avium</i> L.	Cherry
<i>Robinia pseudoacacia</i> L.	Black locust	* <i>Prunus x bleriana</i> Andre.	Flowering plum
<i>Sophora japonica</i> L.	Japanese pagoda tree	* <i>Prunus caroliniana</i> Ait.	Carolina laurel cherry
<i>Wisteria</i> sp.	Wisteria	<i>Prunus cerasifera</i> Ehrh.	Flowering plum
Lythraceae		<i>Prunus cerasus</i> L.	Pie cherry, sour cherry
<i>Lagerstroemia indica</i> L.	Crape myrtle (not crepe myrtle)	<i>Prunus domestica</i> L.	Plum
Magnoliaceae		<i>Prunus dulcis</i> (Miller) D. A. Webb	Almond
<i>Liriodendron tulipifera</i> L.	Tulip tree, yellow poplar	<i>Pyrus calleryana</i> Decne.	Bradford pear, Callery pear
* <i>Magnolia grandiflora</i> L.	Southern magnolia	<i>Pyrus communis</i> L.	Pear
<i>Magnolia soulangeana</i> Soul.-Bod.	Showy magnolia		
Malvaceae			Salicaceae
<i>Hibiscus syriacus</i> L.	Rose-of-Sharon	<i>Populus alba</i> L.	White poplar
Meliaceae		<i>Populus fremontii</i> Wats.	Fremont poplar, Fremont cottonwood
<i>Melia azedarach</i> L.	Texas umbrella, chinaberry tree	<i>Populus x canadensis</i> Moench	Carolina poplar, cottonwood
Moraceae		<i>Populus nigra</i> L. var. <i>italica</i> Duroi	Lombardy poplar
* <i>Broussonetia papyrifera</i> L'Her.	Paper mulberry	<i>Populus tremuloides</i> Michx.	Quaking aspen
<i>Ficus carica</i> L.	Fig	<i>Salix babylonica</i> L.	Weeping willow
<i>Maclura pomifera</i> (Raf.) Schneider	Osage orange	<i>Salix lacustris</i> Bebb	Red willow
<i>Morus alba</i> L.	White mulberry, fruitless mulberry	<i>Salix matsudana</i> Koidz.	Globe willow
<i>Morus nigra</i> L.	Black mulberry	<i>Salix matsudana</i> Koidz. 'Tortuosa'	Corkscrew willow
Myrtaceae			Sapindaceae
* <i>Eucalyptus nicholii</i> Maiden & Blakely	Willowleaf eucalyptus	<i>Koelreuteria paniculata</i> Laxmann	Goldenrain tree
* <i>Eucalyptus polyanthemos</i> Schauer		<i>Sapindus saponaria</i> L. var. <i>drummondii</i> (Hook. & Arn.) Benson	Soapberry
* <i>Feijoa sellowiana</i> Berg.	Silver dollar gum Pineapple guava		
Oleaceae			Simaroubaceae
<i>Fraxinus excelsior</i> L.		<i>Ailanthus altissima</i> (Miller) Swingle	Tree-of-heaven
* <i>Fraxinus oxycarpa</i> Willd. 'Raywood'	European ash Raywood ash		Tamaricaceae
		<i>Tamarix parviflora</i> DC	Salt cedar, tamarisk
			Tiliaceae
		<i>Tilia cordata</i> L.	Small-leaved European linden
		<i>Tilia europea</i> L.	European linden

Ulmaceae		
<i>Celtis occidentalis</i> L.	Hackberry	_____. 1949. Manual of cultivated plants. Rev. ed. MacMillan Publishing Co., New York.
<i>Ulmus americana</i> L.	American elm	EUBANK, M. E., AND R. C. BROUGHT. 1979. Utah weather. Horizon Publishers, Bountiful, Utah.
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<i>Vitex agnus-castus</i> L.	Chaste tree	WELSH, S. L., N. D. ATWOOD, L. C. HIGGINS, S. GOODRICH. 1987. A Utah flora. Great Basin Naturalist Memoir No. 9. Brigham Young University Press, Provo, Utah. 894 pp.
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Agavaceae		
<i>Yucca brevifolia</i> Engelm.	Joshua tree	
<i>Yucca</i> sp.		
Palmaceae		
* <i>Chamacrops humilis</i> L.	Mediterranean fan palm	Received 5 January 1991
* <i>Phoenix dactylifera</i> L.	Date palm	Revised 12 July 1991
* <i>Trachycarpus fortunei</i> Wendl.	Windmill palm	Accepted 31 July 1991
<i>Washingtonia filifera</i> (L.) Linden Wendl.	California fan palm	
* <i>Washingtonia robusta</i> Wendl.	Mexican fan palm	

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